

Fig. 2.

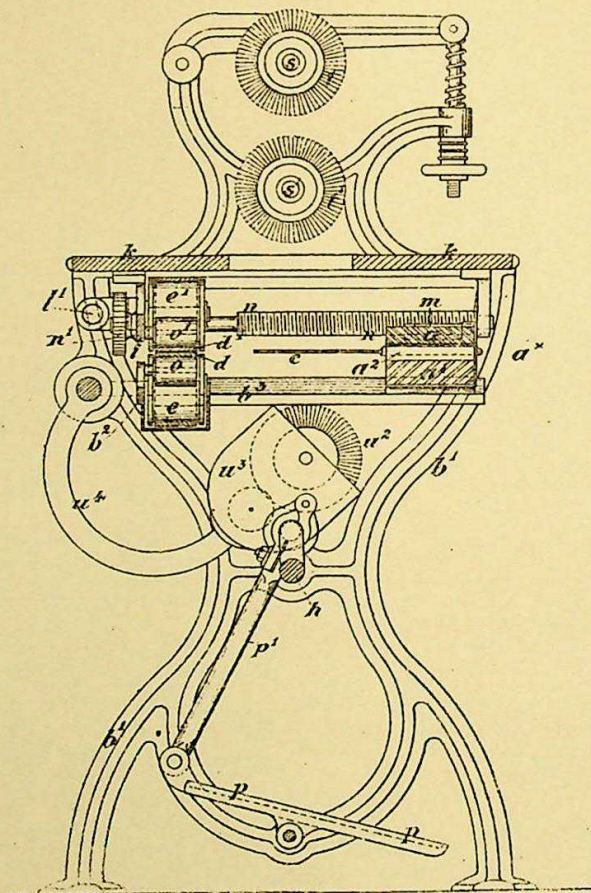
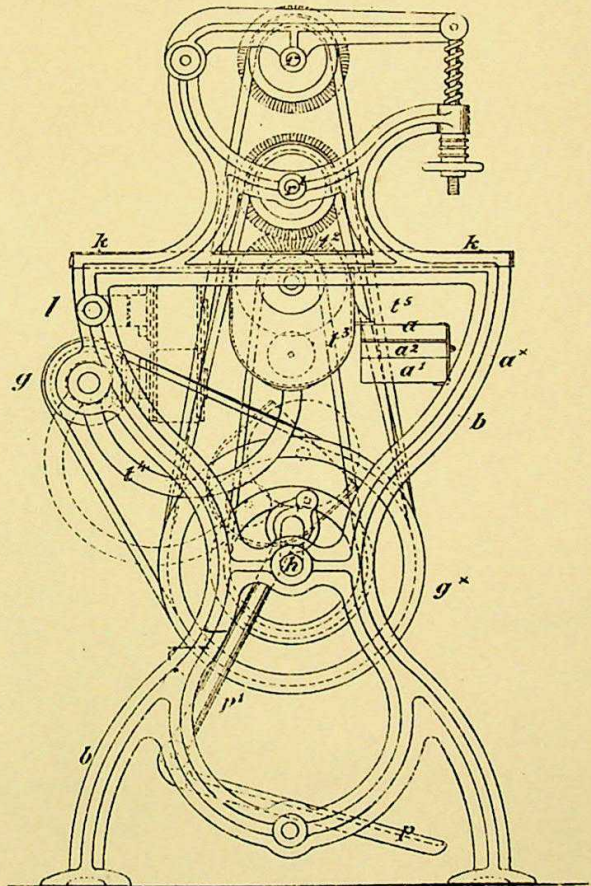


Fig. 3.



1892-3501

GRINDING AND POLISHING
Metal
Cutlery Scourers

51. Grinding & Polishing.

Metal
N^o 3501



A.D. 1892

27

Date of Application, 23rd Feb., 1892

Complete Specification Left, 22nd Nov., 1892—Accepted, 31st Dec., 1892

PROVISIONAL SPECIFICATION.

Improvements in Apparatus for Cleaning Knives, Boots, Shoes, and Plate.

I SAMUEL GEORGE BOARD of Stanley Grove, Sale, in the County of Chester, Insurance Agent, do hereby declare the nature of this invention to be as follows:—

The principal object of this invention is to construct a combined apparatus by which knives, boots and shoes, and also plate may be cleaned and polished.

- 5 The knife cleaning appliance consists of two boards or plates mounted between the two end frames of the machine at a suitable distance from each other.

The upper board or plate is movable upon hinges for inserting the knives which are placed between these two boards or plates, the handles being firmly held in sockets formed in beadings on the edges of the two boards or plates.

- 10 Two narrow straps of suitable material to which emery or other powder is supplied pass, the one above and the other below, these knives and the said strips are caused to travel over rollers in the same direction across the knives (from the back to the edge) and so clean them, being pressed upon them by small rollers.

- 15 As the straps are thus travelling the knives are slowly moved (by rollers or otherwise) across the straps until they have been cleaned from the handles to the points. They can then be removed from the apparatus.

On the same frame which carries the above I mount two pairs of spindles so fitted with a head or otherwise that two different sets of revolving brushes can be fixed thereto, the one set for cleaning and polishing boots and shoes and the other set for cleaning and polishing plate.

The spindles of each pair are arranged in bearings which are adjustable nearer to or further from each other as desired, so that boots or other articles of differing sizes can be cleaned and polished by the aforesaid brushes.

- 25 For polishing silver or other plate discs formed of or covered with buff leather or other similar material are combined with circular brushes in regular sections, the buff leather or other disc doing the smooth polishing without wearing the silver unduly while the brush portion of the roller removes any polishing paste or solution from the engraving.

- 30 A roller or other known appliance is used in combination with the brushes to supply blacking or polishing paste thereto, and these appliances are interchangeable according to the use to which the apparatus is to be put.

The spindles are preferably coupled or geared together by an elastic driving band passing round grooved pulleys.

Dated this 22nd day of February 1892.

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GEO. DAVIES & SON,
4, St. Ann's Square, Manchester, Agents for the Applicant.

COMPLETE SPECIFICATION.

Improvements in Apparatus for Cleaning Knives, Boots, Shoes, and Plate.

- 40 I SAMUEL GEORGE BOARD of Stanley Grove Sale in the County of Chester Insurance Agent, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

The principal object of this invention is to construct a combined apparatus by which knives, boots and shoes and also plate may be cleaned and polished, and the

[Price 8d.]

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invention will be readily understood from the following description on reference to the accompanying drawings of which

Fig. 1 (Sheet 1) is a front elevation Fig. 2 (Sheet 2) a transverse section and Fig. 3 an end elevation of one of my improved machines.

The knife cleaning apparatus consists of two boards or plates $a a^1$ shewn partly 5 broken away on Fig. 1 mounted between the two end frames $b b^1$ of the machine and at a suitable distance from each other.

The upper board a is movable upon hinges a^x for inserting the knives c which are placed between these two boards or plates $a a^1$, the handles c^x being firmly held in sockets formed in beadings on the edges of the two boards $a a^1$ or formed 10 as shown by the projecting strips a^2 on the lower board a^1 , and preferably lined with india rubber or other suitable yielding material. The upper board or plate a is also lined with similar yielding material to prevent scratching or injury to the knife handles c^x which are thus securely held between the two pieces $a a^1$.

Two narrow straps, in the form of endless bands $d d^1$ of leather or other suitable 15 material (to which emery or other powder is supplied) are caused to clean the knives c in the following manner.

The two bands $d d^1$ are carried by two pairs of pulleys $e e$ and $e^1 e^1$. The two pulleys $e e$ are on a frame b^2 attached to the side frame $b b^1$ of the machine, and one of them is driven by the bevil gear f and band pulley g from the pulley g^1 on 20 the driving shaft h .

The two pulleys $e^1 e^1$ for the upper band d^1 are carried by a frame i attached to the underside of the table k of the machine and this table k is hinged to the side frames $b b^1$ of the machine upon the pins $l l^1$ at the back so as to allow of its being 25 lifted up like the lid of a box.

When the table top k is in position as shewn the lower running side of the upper band d^1 and the upper running side of the lower band d are in contact, and the driving pulley e of the lower band d and the pulley e^1 above it exert sufficient pressure to cause both bands d and d^1 to be driven in the same direction, across the 30 blade of the knives to be cleaned.

The knife frame (formed by the two boards or plates $a a^1$) is pushed back by hand into position so that the shoulder end of the knife blade is between the bands $d d^1$ the part a^1 sliding upon suitable brackets b^3 on the side frames $b b^1$, until the desired position is attained.

The knife frame $a a^1$ is provided with a half nut m into which gears a screw n 35 rotated by a ratchet wheel n^1 and a pawl n^2 actuated by an eccentric e^2 revolving with one of the pulleys e^1 .

The pawl n^2 is held in gear with the wheel n^1 by the spring n^3 .

The knife frame is drawn forwards by this screw n and half nut m during the cleaning of the knives and in order to assist in keeping the bands $d d^1$ in contact 40 with each other and thus give sufficient cleaning power upon the knife blades, small rollers $o o^1$ are placed above and below the bands $d d^1$ at the points where the knife blades pass through, the said rollers $o o^1$ being covered with india rubber or other suitable material.

The action of this part of the machine is as follows: 45

The table top k is lifted up and with it the upper strap d^1 and feed screw n which disengages itself from the half nut m and thus leaves the knife frame $a a^1$ free.

The latter is then pushed back by hand up to the bands $d d^1$ and the part a is raised on its hinges. The knives are placed with their blades c across the lower 50 band d and their handles c^x in the sockets a^2 and the top part a is closed down upon them. The table top k is then brought down which brings the band d^1 in contact with the knife blades c and the screw n into gear with the half nut m the machine is set in motion by the treadle p and connecting rod p^1 or other equivalent arrangement and the knives are thus drawn across the moving bands $d d^1$ and 55 cleaned from the handles to the points, and when they have been drawn out from between the said bands the machine is stopped and the table raised to remove the

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knives and substitute others if desired, or to repeat the operation upon the same knives if necessary.

On the same frame which carries the above named mechanism I mount two pairs of spindles r^1 s^1 so fitted with a screwed end or head that two sets of revolving brushes can be fixed thereon, the one set for cleaning and polishing boots and the other set for cleaning and polishing plate.

The spindles of each pair are arranged in bearings which are adjustable (as shewn or otherwise) nearer to or further from each other as desired and they are driven by their respective pulleys by means of elastic driving bands so that boots or other articles of differing sizes can be cleaned and polished by the aforesaid brushes without throwing the machinery out of gear.

I prefer to form the boot cleaning brushes as shown at t^1 on Fig. 1.

A roller or brush t^2 contained in a box t^3 carried by an arm t^4 is used for supplying the blacking.

This box t^3 is raised from the position shewn on Figs. 1 and 2 when required for use into the position shown on Fig. 3 and retained there by pushing the knife frame a beneath the projection t^5 on the said box.

A similar box u^3 and lever u^4 can be supplied for containing plate cleaning mixture, as shewn on the box u^3 can be interchangeable with the box t^3 if preferred.

The brushes t^2 and u^2 are rotated by the pulleys t^6 and u^6 .

For polishing silver or other plate, discs formed of or covered with buff leather or other similar material are by preference combined with circular brushes in regular sections, the buff leather or other discs doing the smooth polishing without wearing the silver unduly while the brush portion of the roller removes any polishing paste or solution from the engraving.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

1. The apparatus for cleaning knives boots or shoes and plate arranged in combination substantially as hereinbefore described and illustrated by the annexed drawings.

2. The combination of a pair of travelling bands for cleaning knives with a frame for holding the said knives the said frame being moved automatically to draw the knives across the bands and so clean their whole length substantially as hereinbefore described and illustrated by the annexed drawings.

3. Two brushes arranged in bearings which are adjustable one from the other at the distance required according to the size of articles to be cleaned in combination with elastic driving bands so that boots or other articles of differing sizes may be cleaned without throwing the machinery out of gear substantially as hereinbefore described and illustrated by the drawings annexed.

Dated this 21st day of November 1892.

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